

Amendments to the Claims:

This listing of claims will replace all prior versions listings of claims in the application:

Listing of Claims:

24. (Previously presented): A modified M2 polypeptide with reduced hydrophobicity and enhanced recombinant expression relative to a native M2, the modified M2 polypeptide comprising a sequence of amino acids identical to a native M2 protein in which the transmembrane region and from 0 to 12 amino acid residues adjacent to the transmembrane region on the C-terminal side have been deleted.
25. (Previously presented): The modified M2 polypeptide of claim 24, wherein the transmembrane region and none of the adjacent residues on the C-terminus side of the transmembrane region have been deleted.
26. (Previously presented): The modified M2 polypeptide of claim 24, wherein the transmembrane region and the adjacent 12 amino acids on the C-terminal side of the transmembrane region have been deleted.
27. (Previously presented): The modified M2 polypeptide of claim 24, wherein the native M2 protein is from the A/Aichi/2/68 (H3N2) virus.
28. (Previously presented): The modified M2 polypeptide of claim 27, wherein amino acids 26-43 have been deleted.
29. (Previously presented): The modified M2 polypeptide of claim 27, wherein amino acids 26-55 have been deleted.
30. (Previously presented): The modified M2 polypeptide of claim 24, wherein the deleted amino acid residues are replaced one or more neutral or hydrophilic amino acid residues, provided that the total number of amino acid residues in the modified M2 polypeptide is less than or equal to the number in the native M2 polypeptide.

31. (Previously presented): The modified M2 polypeptide of claim 30, wherein all of the deleted amino acids are replaced with from one to six glycine residues.
32. (Previously presented): A modified M2 polypeptide with reduced hydrophobicity and enhanced recombinant expression relative to a native M2, the modified M2 polypeptide comprising a sequence of amino acids identical to a native M2 protein in which from one to all of the amino acid residues of the transmembrane region and from 0 to 12 amino acid residues adjacent to the transmembrane region on the C-terminal side are replaced with neutral or hydrophilic amino acid residues.
33. (Previously presented): The modified M2 polypeptide of claim 32, wherein all of the amino acid residues of the transmembrane region have been substituted with neutral or hydrophilic residues.
34. (Previously presented): The modified M2 polypeptide of claim 32, wherein all of the amino acid residues of the transmembrane region and from one to twelve amino acids adjacent to the transmembrane region on the C-terminal side have been substituted with neutral or hydrophilic residues.
35. (Previously presented): The modified M2 polypeptide of claim 32, wherein the native M2 protein is from the A/Aichi/2/68 (H3N2) virus.
36. (Previously presented): A modified M2 polypeptide fusion protein comprising a modified M2 polypeptide according to claim 24.
37. (Previously presented): A modified M2 polypeptide fusion protein comprising a modified M2 polypeptide according to claim 30.
38. (Previously presented): A modified M2 polypeptide fusion protein comprising a modified M2 polypeptide according to claim 31.

39. (Previously presented): A modified M2 polypeptide fusion protein comprising a modified M2 polypeptide according to claim 32.
40. (Previously presented): A modified M2 polypeptide fusion protein comprising a modified M2 polypeptide according to claim 35.
41. (Previously presented): A DNA molecule comprising a sequence of nucleotides encoding a modified M2 polypeptide according to claim 24.
42. (Previously presented): A DNA molecule comprising a sequence of nucleotides encoding a modified M2 polypeptide according to claim 30.
43. (Previously presented): A DNA molecule comprising a sequence of nucleotides encoding a modified M2 polypeptide according to claim 31.
44. (Previously presented): A DNA molecule comprising a sequence of nucleotides encoding a modified M2 polypeptide according to claim 32.
45. (Previously presented): A DNA molecule comprising a sequence of nucleotides encoding a modified M2 polypeptide according to claim 35.
46. (Previously presented): A vector capable of expressing a modified M2 polypeptide, the vector comprising the DNA molecule of claim 41.
47. (Previously presented): A vector capable of expressing a modified M2 polypeptide, the vector comprising the DNA molecule of claim 42.
48. (Previously presented): A vector capable of expressing a modified M2 polypeptide, the vector comprising the DNA molecule of claim 44.

49. (Previously presented): A vector capable of expressing a modified M2 polypeptide, the vector comprising the DNA molecule of claim 45.
50. (Previously presented): A vector capable of expressing a modified M2 polypeptide, the vector comprising the DNA molecule of claim 45.
51. (Previously presented): A host cell capable of expressing a modified M2 polypeptide, the host cell comprising a vector according to claim 46.
52. (Previously presented): A host cell capable of expressing a modified M2 polypeptide, the host cell comprising a vector according to claim 47.
53. (Previously presented): A host cell capable of expressing a modified M2 polypeptide, the host cell comprising a vector according to claim 48.
54. (Previously presented): A host cell capable of expressing a modified M2 polypeptide, the host cell comprising a vector according to claim 49.
55. (Previously presented): A host cell capable of expressing a modified M2 polypeptide, the host cell comprising a vector according to claim 50.
56. (Previously presented): The host cell according to claim 51, wherein the host is a prokaryote.
57. (Previously presented): The host cell according to claim 52, wherein the host is a prokaryote.
58. (Previously presented): The host cell according to claim 53, wherein the host is a prokaryote.

59. (Previously presented): The host cell according to claim 54, wherein the host is a prokaryote.
60. (Previously presented): The host cell according to claim 51, wherein the prokaryote is *E. coli*.
61. (Previously presented): The host cell according to claim 52, wherein the prokaryote is *E. coli*.
62. (Previously presented): The host cell according to claim 53, wherein the prokaryote is *E. coli*.
63. (Previously presented): The host cell according to claim 54, wherein the prokaryote is *E. coli*.
64. (Previously presented): The host cell according to claim 55, wherein the prokaryote is *E. coli*.
65. (Previously presented): A composition comprising a modified M2 polypeptide of claim 24 and a pharmaceutically acceptable carrier.
66. (Previously presented): A composition comprising a modified M2 polypeptide of claim 30 and a pharmaceutically acceptable carrier.
67. (Previously presented): A composition comprising a modified M2 polypeptide of claim 31 and a pharmaceutically acceptable carrier.
68. (Previously presented): A composition comprising a modified M2 polypeptide of claim 32 and a pharmaceutically acceptable carrier.
69. (Previously presented): A composition comprising a modified M2 polypeptide of claim 35 and a pharmaceutically acceptable carrier.

- 70. (Previously presented): An antibody to a modified M2 polypeptide of claim 24.
- 71. (Previously presented): An antibody to a modified M2 polypeptide of claim 30.
- 72. (Previously presented): An antibody to a modified M2 polypeptide of claim 31.
- 73. (Previously presented): An antibody to a modified M2 polypeptide of claim 32.
- 74. (Previously presented): An antibody to a modified M2 polypeptide of claim 35.
- 75. (Previously presented): A method of preventing or treating a subject suffering from viral influenza A infection, the method comprising administering a prophylactic or viral load-reducing amount of an antibody according to claim 70.
- 76. (Previously presented): A method of preventing or treating a subject suffering from viral influenza A infection, the method comprising administering a prophylactic or viral load-reducing amount of an antibody according to claim 71.
- 77. (Previously presented): A method of preventing or treating a subject suffering from viral influenza A infection, the method comprising administering a prophylactic or viral load-reducing amount of an antibody according to claim 72.
- 78. (Previously presented): A method of preventing or treating a subject suffering from viral influenza A infection, the method comprising administering a prophylactic or viral load-reducing amount of an antibody according to claim 73.
- 79. (Previously presented): A method of preventing or treating a subject suffering from viral influenza A infection, the method comprising administering a prophylactic or viral load-reducing amount of an antibody according to claim 74.

80. (Previously presented): A method for determining current or previous exposure of a subject to influenza virus, the method comprising contacting a sample from the subject with a modified M2 protein according to claim 24 and detecting the binding of antibodies to the modified M2 protein.
81. (Previously presented): A method for determining current or previous exposure of a subject to influenza virus, the method comprising contacting a sample from the subject with a modified M2 protein according to claim 30 and detecting the binding of antibodies to the modified M2 protein.
82. (Previously presented): A method for determining current or previous exposure of a subject to influenza virus, the method comprising contacting a sample from the subject with a modified M2 protein according to claim 31 and detecting the binding of antibodies to the modified M2 protein.
83. (Previously presented): A method for determining current or previous exposure of a subject to influenza virus, the method comprising contacting a sample from the subject with a modified M2 protein according to claim 32 and detecting the binding of antibodies to the modified M2 protein.
84. (Previously presented): A method for determining current or previous exposure of a subject to influenza virus, the method comprising contacting a sample from the subject with a modified M2 protein according to claim 35 and detecting the binding of antibodies to the modified M2 protein.
85. (Canceled): A method of preparing an M2 antibody, the method comprising immunization of a subject with a composition according to claim 65.
86. (Canceled): A method of preparing an M2 antibody, the method comprising immunization of a subject with a composition according to claim 66.

87. (Canceled): A method of preparing an M2 antibody, the method comprising immunization of a subject with a composition according to claim 67.
88. (Canceled): A method of preparing an M2 antibody, the method comprising immunization of a subject with a composition according to claim 68.
89. (Canceled): A method of preparing an M2 antibody, the method comprising immunization of a subject with a composition according to claim 69.
90. (New): A method of preparing an M2 antibody, the method comprising immunization of a subject with a composition comprising a modified M2 polypeptide with reduced hydrophobicity and enhanced recombinant expression relative to a native M2 and a pharmaceutically acceptable carrier, wherein the modified M2 polypeptide comprises a sequence of amino acids identical to a native M2 protein in which the transmembrane region and from 0 to 12 amino acid residues adjacent to the transmembrane region on the C-terminal side have been deleted.
- C 91. (New): The method of claim 90, wherein the deleted amino acid residues in the modified M2 polypeptide are replaced by one or more neutral or hydrophilic amino acid residues, provided that the total number of amino acid residues in the modified M2 polypeptide is less than or equal to the number in the native M2 polypeptide.
92. (New): The method of claim 91, wherein all of the deleted amino acids are replaced with from one to six glycine residues.
93. (New): The method of preparing an M2 antibody, the method comprising immunization of a subject with a modified M2 polypeptide with reduced hydrophobicity and enhanced recombinant expression relative to a native M2 and a pharmaceutical carrier, wherein the modified M2 polypeptide comprises a sequence of amino acids identical to a native M2 protein in which from one to all of the amino acid residues of the transmembrane region and from 0 to 12 amino acid residues adjacent to the transmembrane region on the C-terminal side are replaced with neutral or hydrophilic amino acid residues.



94. (New): The method of claim 93, wherein the native M2 protein is from the A/Aichi/2/68 (H3N2) virus.

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